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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,938	10/06/2003	Benjamin Ari Tober	111244.150 (US2)	3607
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WILMER CUTLER PICKERING HALE AND DORR LLP 60 STATE STREET BOSTON, MA 02109			EXAMINER HOANG, HIEU T	
			ART UNIT 2152	PAPER NUMBER
			NOTIFICATION DATE 07/11/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/679,938	Applicant(s) TOBER ET AL.	
	Examiner Hieu T. Hoang	Art Unit 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment filed on 05/11/2007.
2. Claims 1-12 are presented for examination.

Response to Amendment

3. The objection of claim 2 has been withdrawn due to amendment.

Response to Arguments

4. Applicant's arguments filed on 05/11/2007 have been fully considered but they are moot in view of new ground(s) of rejection.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Lim et al. (Customizable Virtual Private network Service with QoS, August 1, 2000, <http://www.cs.cmu.edu/afs/cs/project/cmcl/archive/Darwin-papers/cn-vpn01.pdf>, hereafter Lim).

7. For claim 1, Lim discloses a method for use in managing resources in networking (abstract), the method comprising:

adding a field to an operating system kernel software procedure, the field referencing a virtual router context (page 13, left column, lines 11-18, vpn_id is read as a virtual router context; figure 10, kernel space); and

modifying packet processing software code to cause the packet processing software code to execute in accordance with the virtual router context (page 13, left column, lines 20-25, figure 10, kernel space).

running generic application code on an operation system that operates in multiple contexts (fig. 10, section 3.3.2, first bullet point, p. 3 lines 12-19, 25-33, an array vpn_rt_tables for VPN forwarding tables, each entry of the vpn_rt_table contains a pointer to a forwarding table and an unsigned integer that stores the VPN-ID (or the virtual router context), which is associated with a kernel socket; multiple contexts can be run in one operating system, see fig. 3, a virtualized router running three virtual links).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2-12 are rejected under 35 U.S.C. 103(a) as being unpatenable over Alfieri et al. (US 2002/009849, hereafter Alfieri), in view of Dalton et al. (US 2003/0172109, hereafter Dalton)

10. For claim 2, Alfieri discloses a method for using a network device having an operating system instance that operates in a plurality of routing contexts (abstract, [0036] lines 4-8, a virtual router packet switching system is read as the claimed network device), the method comprising:

associating a first network with a first routing context and a second network with a second routing context, wherein the first context is isolated from the second context ([0034] lines 1-4, [0036] lines 1-6, each virtual private routed network VPRN is associated with a different virtual router VR, and each VR has a distinct routing context area CTXT);

receiving, at the same networking address of the network device ([0025] lines 1-6, overlapping addresses can be used for different virtual access router VARs), a first message originating from the first network and a second message originating from the second network by the network device ([0036] lines 8-15);

associating the first message with a first application running on the operating system instance of the network device based on a determination that the first message is associated with the first routing context ([0037] lines 1-18 and [0038] lines 1-10); and

associating the second message with a second application running on the

operating system instance based on a determination that the second message is associated with the second routing context ([0037] lines 1-18 and [0038] lines 1-10);

Alfieri does not explicitly disclose creating a process in the first routing context that inherits routing context information.

However, Dalton discloses creating a process in the first routing context that inherits routing context information ([0049], a method of making children processes automatically inherit parent process when a parent 'folks' a child and transfers a tag (or a routing context) to the child).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Alfieri and Dalton to create a group of folked children processes cooperating to share the workload (Dalton [0049]).

11. For claim 3, Alfieri-Dalton discloses the invention as in claim 2. Alfieri-Dalton further discloses at least one of Transport Control Protocol (TCP), User Datagram Protocol (UDP), and raw IP code (Alfieri, [0020] lines 5-10) associated with the operating system instance inherits the routing context from the process in the first routing context (Dalton [0049]).

11. For claim 4, Alfieri-Dalton discloses the invention as in claim 2. Alfieri-Dalton further discloses:
assigning to the first message a first routing context number, wherein the first message is determined to be associated with the first routing context using the first routing

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context number (AA, [0037] lines 1-5, routing context number 134 is assigned to any message from VR#134, messages from VR #134 is then associated with routing context number 134); and assigning to the second message a second routing context number, wherein the second message is determined to be associated with the second routing context using the second routing context number (AA, [0037] lines 1-5, figure 5, there can M message context numbers wherein $M > I$).

12. For claim 5, Alfieri-Dalton discloses the invention as in claim 4. Alfieri-Dalton further discloses:

assigning a first routing table to the first router context, wherein the first routing table is associated with the first context number (AA, [0037] lines 1-5, routing table 134 is assigned to router context 134); and

assigning a second routing table to the second router context, wherein the second routing table is associated with the second context number (AA, [0037] lines 1-5, figure 5, there can M message context numbers wherein $M > I$).

13. For claim 6, Alfieri-Dalton discloses the invention as in claim 2. Alfieri-Dalton further discloses the first and second networks are private networks that are isolated from the Internet (AA, figure 1, VPRNs are virtual private networks and are isolated from the Internet).

14. For claim 7, Alfieri-Dalton discloses the invention as in claim 2. Alfieri-Dalton further discloses information received by the network device from the first network is not provided to the second network by the network device, and wherein information received by the network device from the second network is not provided to the first network by the network device (AA, [0036] lines 13-20, the task executes using the data from the context area CTEXT associated with the VR which sent out the task).

15. For claim 8, Alfieri-Dalton discloses the invention as in claim 2. Alfieri-Dalton further discloses both the first message and the second message include at least one data packet (AA, [0036] lines 12-13).

16. For claim 9, Alfieri-Dalton discloses the invention as in claim 2. Alfieri-Dalton further discloses the first and second messages are received by the network device using a first network connection initiated by a first process and a second network connection initiated by a second process, respectively (AA, [0036] lines 8-20, [0037] lines 12-16), the method further comprising:

assigning to the first process a default first routing context number (AA, [0036] lines 13-16); and

assigning to the second process a default second routing context number (AA, [0036] lines 13-16, each process is coupled with the appropriate context area).

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17. For claim 10, Alfieri-Dalton discloses the invention as in claim 9. Alfieri-Dalton further discloses inheriting the default first routing context by a third process, whose parent is the first process, at the time of creation of the third process (Dalton, [0049]).

18. For claim 11, Alfieri-Dalton discloses the invention as in claim 2. Alfieri-Dalton further discloses associating at least one interface to the operating system instance with a routing context (AA, [0038] lines 6-10, figure 4, interfaces PI's and VI's, [0033] lines 1-17, [0041] lines 1-7).

19. For claim 12, Alfieri discloses a computer system comprising:

a first network that is associated with a first routing context ([0034] lines 1-4, [0036] lines 1-6, each virtual private routed network VPRN is associated with a different virtual router VR, and each VR has a distinct routing context area CTXT);

a second network that is associated with a second routing context ([0034] lines 1-4, [0036] lines 1-6);

a network device that receives messages from both the first network and second network at a networking address (abstract, [0036] lines 4-8, a virtual router packet switching system is read as the claimed network device; [0025] lines 1-6, overlapping addresses can be used for different virtual access router VARs); wherein the network device is configured to determine that messages received from the first network are associated with the first routing context and to determine that messages received from

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the second network are associated with the second routing context ([0037] lines 1-18 and [0038] lines 1-10).

Alfieri does not explicitly disclose a process running on the first network that is associated with the first routing context, wherein the process inherits information from the first routing context when the process is created by the first routing context.

However, Dalton discloses a process running on the first network that is associated with the first routing context, wherein the process inherits information from the first routing context when the process is created by the first routing context ([0049], a method of making children processes automatically inherit parent process when a parent 'folks' a child and transfers a tag (or a routing context) to the child, [0052], default and automatic operation at start up).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Alfieri and Dalton to create a group of folked children processes cooperating to share the workload (Dalton [0049]).

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Leach et al. US 6,108,715. Method and system for invoking remote procedure calls.

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- Owens. US 5,142,622. System for interconnecting application across different networks of data processing systems by mapping protocols across different network domains.
- Tahan. US 2002/0078370. Controlled information flow between communities via a firewall.
- Jayasenan et al. US 7,042,876. Stateful network address translation protocol.

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hieu T. Hoang whose telephone number is 571-270-

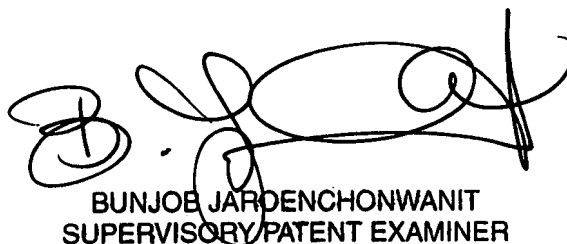
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1253. The examiner can normally be reached on Monday-Thursday, 8 a.m.-5 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hieu Hoang/



BUNJOB JAROENCHONWANIT
SUPERVISORY PATENT EXAMINER

7/3/17